

Regulatory Compliance Documentation

Each facility subject to the PFPR effluent guidelines and standards is required to keep certain paperwork on site to demonstrate compliance with the rule. This paperwork must be available to the permitting agencies, control authorities, and enforcement officials and must document the compliance options chosen by the facility. As part of the on-site compliance paperwork, the PFPR rule requires a one-time initial certification statement and periodic certification statements to be submitted to the permitting agency or control authority. The permitting agency or control authority may also choose to require submittal of additional paperwork for approval, including the supporting documentation for the facility’s selected P2 practices and wastewater treatment technologies. Indirect-discharging facilities must also meet the paperwork requirements under the General Pretreatment Regulation (40 CFR 403), such as submittal of a baseline monitoring report (BMR) (40 CFR 403.12(b)). Guidance on the requirements of the BMR and applicability of categorical pretreatment standards to industrial users, including zero dischargers, is included in Appendix E.

As stated previously in this manual, each facility subject to the rule must make an initial choice of how to comply with the rule. This choice is documented in the initial certification statement. The facility periodically reviews those choices and makes any necessary adjustment in the periodic certification statement. Chapter 4 discusses the P2 audit and how a facility can use that tool to determine which compliance strategy to choose (i.e., zero discharge or P2 alternative). Chapter 6 discusses how to choose appropriate wastewater treatment technologies and make a final compliance decision after weighing the economic impacts of treatment. The information in these two chapters provides the means with which a facility can choose its method of complying with the PFPR regulation. This chapter discusses the way in which a facility documents its compliance decisions.

Necessary Paperwork for the P2 Alternative

- One-time initial certification statement (40 CFR 455.41 (a));
- Periodic certification statement (40 CFR 455.41 (b)); and
- On-site compliance paperwork (40 CFR 455.41 (c)).

Initial Certification Statement

The initial certification statement required for PFPR facilities includes four items. As shown in Table 7-1, the requirements under these items can be met by completing Tables A through E (shown in Chapters 4 and 6). As discussed in Chapter 4, Tables A and B walk the user through conducting a P2 audit. Table A prompts the facility to identify its wastewater sources and Table B identifies P2 practices that are in use or potentially could be used to comply with the P2 alternative for those sources (Item 2). Tables B and C also provide a column for listing modifications to the listed P2 practices (Item 3). After completing Tables A



Table 7-1 Initial Certification Statement Requirements

One-time submission to the appropriate control authority or permitting agency including the following:	Table
(1) List and description of those product families, process lines, and/or process units for which the PFPR facility is implementing the P2 alternative and those for which it chooses to achieve zero discharge;	C
(2) Description of the PFPR facility-specific practices for each product line/process line/process unit which are to be practiced as part of the P2 alternative;	A, B
(3) Description of any justification allowing modification to the practices listed on Table 8 of the final rule; and	B, C
(4) Description of the treatment system being used to obtain a P2 allowable discharge (as defined by the final rule).	D, E

and B, the facility can complete Table C through the preliminary compliance decision (Item 1), which includes any modifications to listed P2 practices chosen by the facility. Note that Table C has a column to list the approval date for modifications to any P2 practices chosen by a facility that are not listed in Table 8 of the final rule. The facility will need to obtain approval for all nonlisted modifications, and the on-site compliance paperwork should reflect this approval, prior to the facility implementing these modifications.

The fourth requirement for completing of the initial certification statement can be met by filling out Tables D and E, as discussed in Chapter 6. Table D identifies the treatment technologies that a facility will choose to treat its wastewater remaining after implementation of P2 practices in order to meet the allowable discharge requirement. Table E presents the results of the treatability tests for the technologies identified in Table D. Once the facility has chosen the best treatment options for its remaining wastewater (i.e., treatment and discharge or contract haul), final compliance decisions can then be documented on Table C.

The initial certification statement must be submitted to the permitting agency at the time of issuance, renewal, or modification of an NPDES permit for direct dischargers and to the control authority (e.g., POTW) prior to the November 6, 1999 compliance deadline for indirect dischargers. The statement must be signed by the appropriate manager in charge of overall operations at the site to ensure that information provided is true, accurate, and complete to the best of his/her knowledge. This manager should be the same person who signs the compliance status reports as required by 40 CFR 403.12(l) or 40 CFR 122.22. The initial certification statement should also be kept on file at the facility as part of the required on-site compliance paperwork for as long as the facility is in operation.

Periodic Certification Statement

The periodic certification statement required for PFPR facilities consists of a written submission to the appropriate permitting agency or control authority. This submission states that the P2 alternative is being implemented in the manner set forth in the local control mechanism/pretreatment agreement (for indirect dischargers) or NPDES permit (for direct dischargers), as well as the initial certification, or states that a listed justification from Table 8 of the final regulation has been implemented at the facility allowing modification of their P2 practices.

Initial

Periodic

Periodic

If the information contained in the facility's permit or pretreatment agreement and initial certification statement is still applicable, a facility may simply state that in a letter to the permitting authority, and that letter will constitute the periodic statement. However, if the facility has modified their P2 practices in any way or is deciding to change their compliance status for one of their product lines/process lines/process units (i.e., going from zero discharge to a P2 practice followed by allowable discharge), they must include such information in their periodic statement. To comply with this requirement, the facility may submit a revised Table C, indicating the change on the table. To modify a listed P2 practice for which a justification is not listed in the final regulation, the facility must request the modification from the permitting agency or the control authority (e.g., POTW). The permit writer/control authority is expected to use Best Engineering Judgment/Best Professional Judgment (BEJ/BPJ) to approve the modification.

The periodic certification statement must be submitted to the permitting agency once a year for direct dischargers and to the control authority twice a year for indirect dischargers. The statement must be signed by the appropriate manager in charge of overall operations at the site to ensure that information provided is true, accurate, and complete to the best of his/her knowledge. Again, this manager should be the same person who signs compliance status reports as required by 40 CFR 403.12(l) or 40 CFR 122.22. The periodic certification statements should also be kept on file at the facility as part of the required on-site compliance paperwork for as long as the facility is in operation. An example of a periodic certification statement is shown in Figure 7-1.

ACME FORMULATING, INC. 1234 Main Street, Anytown, VA 01110 (703)555-5555	
1 July 1997	
Anytown POTW 1 Main Street Anytown, VA 01110	
RE: PFPR Periodic Certification for ACME Formulating, Inc.	
Dear Sir/Madam:	
<p>Please be advised that the facility located at 1234 Main Street has initiated production of two new pesticide products: ACME Lawn and Garden Insect Control (dry) and ACME Lawn and Garden Insect Spray (liquid). Both of these products contain diazinon, a pesticide active ingredient not previously used at our facility. Attached please find a listing of the new wastewater sources associated with the production of these products, and whether we intend to comply with the zero discharge regulation or the P2 alternative.</p>	
<p>As you will see from the attached list, our facility will generate two new sources of wastewater containing diazinon that will be discharged to your POTW. No additional modifications to the listed practices will be made. Our current treatment system consists of emulsion breaking, followed by hydrolysis and activated carbon. Table 10 to Part 455 lists hydrolysis as the appropriate treatment technology for diazinon; therefore, we do not intend to make any changes to our treatment system. As stated in our pretreatment agreement, we will monitor our treatment system effluent for diazinon for 60 days and provide you with copies of all results.</p>	
<p>Please feel free to contact me at (703) 555-5555 if you have any questions or comments regarding our changes in operation.</p>	
Sincerely, <i>John Doe</i> John Doe President, ACME Formulating, Inc.	

Figure 7-1. Example of a Periodic Certification Statement

On-Site Compliance Paperwork

In addition to the initial and periodic certification statements, the on-site compliance paperwork should include the four items listed in Table 7-2. This paperwork must be available for review at any time by the permitting agency or control authority. As discussed under the section describing the initial certification statement, the on-site paperwork requirements may include the information documented on Tables A through E, as described in Chapters 4 and 6. These tables document the wastewater sources, P2 practices and modifications, if any, and wastewater treatment technologies/disposal options chosen by the facility.

The on-site paperwork should also include more detailed materials supporting the decisions in the initial and periodic certification statements. The appropriate documentation for each of these decisions is discussed in more detail below.

→ P2 Modification Documentation

If a facility chooses to comply with the P2 alternative using a modification listed in Table 8 of the final rule for any wastewater source, the facility must detail those modifications in their on-site compliance paperwork. Table 7-3 presents the practices from the rule that have listed modifications. Each of these listed modifications requires supporting documentation, as described in Table 8 of the final rule. For example, a facility has determined that they cannot store and reuse the interior equipment rinsate from a specific product because the rinsate exhibits biological growth that would affect the product quality if reused in a subsequent formulation. The facility lists “BIOGROWTH” as their modification to Practice 10 for that product, and includes as documentation a picture of the rinsate after growth has occurred and/or a copy of the product QA test results showing unacceptable constituents present.

If a facility wishes to modify any P2 practice using a justification that is not listed in Table 8, the facility must submit to the control authority or permit writer the appropriate documentation stating their reasons for modifying the practice. This documentation must be approved by the permitting agency or control authority prior to implementation by the facility. Both the supporting documentation and the approval must be included in the on-site compliance paperwork.

On-site Paperwork

Table 7-2
On-Site Compliance Paperwork Components

- (1) Supporting documentation for P2 modifications;
- (2) Discussion of treatment system demonstrating removal of PAIs;
- (3) Method for ensuring treatment system is well operated and maintained; and
- (4) Rationale for method shown in Item 3.

Table 7-3
P2 Practices With Listed Modifications Requiring Documentation

Practice 1 - Water Conservation
 Practice 2 - Good Housekeeping
 Practice 6 - Air Pollution Control Scrubbers
 Practice 7 - Drum/Shipping Container Rinsing (water-based)
 Practice 8 - Drum/Shipping Container Rinsing (solvent-based)
 Practice 9 - Production Equipment Dedication
 Practice 10 - Reuse of Interior Rinsate

→ Treatment System Discussion

If a facility chooses to install a wastewater treatment system to treat PFPR wastewater prior to direct or indirect discharge, the facility must include a complete description of the system in their on-site compliance paperwork. This description should include the information listed in Table 7-4, as well as any documentation necessary to support the conclusions drawn by the facility.

Following completion of a P2 audit (described in Chapter 4), the facility should be able to identify the wastewater sources that require treatment prior to discharge under the P2 alternative. In the on-site compliance paperwork, the facility must list the specific pesticide active ingredients expected to be present in the facility wastewater. Facilities may use production records or product labels listing the pesticide active ingredients used at the facility or wastewater monitoring data that specifically identifies the constituents. The facility should review the production and monitoring data covering a sufficient time period to accurately capture all possible pesticide active ingredients present in the wastewater.

Next, the facility must describe the treatment system, including a list of the technologies and operating conditions, and document that the technologies do, in fact, remove the pesticide active ingredients from the wastewater prior to discharge. This documentation may simply state that the technology(ies) is listed in Table 10 to Part 455 as the appropriate technology(ies) for the specific pesticide active ingredients present in the facility's wastewater or that the technology(ies) removes the specific pesticide active ingredients from their pesticide manufacturing wastewater. Chapters 5 and 6 discuss the test methods available to identify the specific pesticide active ingredients present in the wastewater and the appropriate treatment technologies for their removal. Chapter 6 also describes how to document those results on Tables D and E. An example of a treatment system description using Tables D and E is shown in Figure 7-2.

If the facility chooses to use different technologies than those listed in the final rule, they must include treatability test results or sampling test results (described in Chapter 6) to show the system is equivalent. The technologies listed in the final rule were chosen because of their effectiveness in removing or reducing pesticide active ingredients. Following sufficient pretreatment of PFPR wastewater to break emulsions and/or remove solids, these listed technologies were generally successful in removing more than 95% of the pesticide active ingredients, typically to below detection limits. To determine whether a different technology or set of technologies is equivalent to the listed technologies, the facility should evaluate three measures:

On-site Paperwork

Table 7-4
Treatment System Description

- (1) List of pesticide active ingredients believed present in wastewater to be treated;
- (2) List of treatment technology(ies) believed effective at removing each pesticide active ingredient listed in Item 1; and
- (3) Treatability test results supporting Item 2 or indication that the treatment appears in 40 CFR 455, Table 10 as the "appropriate treatment" for pesticide active ingredient(s).

Equivalent System (40 CFR 455.10)

A wastewater treatment system that is demonstrated in literature, treatability tests, or self-monitoring data to remove a similar level of pesticide active ingredients or priority pollutants as the applicable appropriate pollution control technology listed in Table 10 to Part 455.

Table D: Identification of Wastewater Sources and Treatment Technologies

Facility: _____		Location: _____					
Date: _____		Prepared by: _____					
Stream Type	Source	Potential Pollutants		Wastewater Treatment Information			Characteristics That Hinder Treatment
		Active Ingredients	Other Pollutants	Table 10 Technology ¹	Alternate Treatment Technology ¹	Source for Alternative Technology	
1. Shipping Container/ Drum Cleaning - water or solvent rinses of the containers used to ship raw material, finished products, and/or waste products prior to reuse or disposal of the containers.	1.a.						
	1.b.						
2. Bulk Tank Rinsate - cleaning of the interior of any bulk storage tank containing raw materials, intermediate blends, or finished products associated with PFPR operations.	2.a.						
	2.b.						
3. Formulating Equipment Interior Cleaning - routine cleaning, cleaning due to product changeover, or special cleaning of the interior of any formulating equipment, including formulation and/or storage tanks, pipes, and hoses. Cleaning materials may include water, detergent, or solvent.	3.a. liquid formulation tank # 2	Metolachlor Pendimethalin Pyrethrin II	BOD ₅ , TOC, TSS	AC AC HD	HD	Treatability testing, Literature	
	3.b. liquid formulation tank # 3	Metolachlor Pendimethalin Pyrethrin II	BOD ₅ , TOC, TSS	AC AC HD	HD	Treatability testing, Literature	
	3.c. dry formulation tank	Linalool Pendimethalin	BOD ₅ , TOC, TSS	AC AC	HD	Treatability testing, Literature	High solids content
	3.d.						

¹ HD = hydrolysis, AC = activated carbon, PT = precipitation, CO = chemical oxidation, P2 = pollution prevention, OT = other _____

Table E: Summary and Evaluation of Test Results

Facility: _____		Location: _____									
Date: _____		Prepared by: _____									
Insert your optimal treatment train and operating parameters in the space provided below:											
<pre> graph LR Raw[Raw Wastewater] --> EB[Emulsion Breaking] EB --> H[Hydrolysis] H --> ACA[Activated Carbon Adsorption] ACA --> Discharge[Discharge] </pre>											
Technology	Primary Constituents	Design and Operating Parameters					Constituent Concentration		Performance Measures ¹		Effectively Treated? (Y/N)
		pH	Temperature (°C)	Other Treatment Time	Other Settling Time	Other Reaction Time	Influent (ug/L)	Effluent (ug/L)	Percent Removal	Other Hydrolysis Half-Life	
Overall effectiveness	Cyanazine						3750	< 2	> 99.9%		Y
	Linalool						5760	< 100	> 98.3%		Y
	Metolachlor						15700	< 0.8	> 99.9%		Y
	Pendimethalin						110	< 0.5	> 99.6%		Y
	Pyrethrin II						81.1	< 5	> 93.8%		Y
	Biological Oxygen Demand (BOD ₅)						< 108	31	< 71.3%		Y
	Hexane Extractable Material (HEM)						56	< 5	> 91.1%		Y
	Total Organic Carbon (TOC)						534	63	88.2%		Y
Total Suspended Solids (TSS)						334	< 4	> 98.8%		Y	

Figure 7-2. Example of a Treatment System Description

- Percent removal of the pesticide active ingredient;
- Final effluent concentration of the pesticide active ingredient; and
- Minimum detection limit of the pesticide active ingredient.

These methods are not exclusive and are not ranked in order of importance. All three methods may be useful when determining equivalency.

Percent removals and effluent concentrations discussed in the final PFPR effluent guidelines and standards are shown for **guidance** only.

→ Treatment System Operation and Maintenance

Facilities that treat PFPR wastewater prior to discharge must also choose a method to demonstrate that their treatment system is well operated and maintained. This method should be stated and the rationale for choosing it discussed in the on-site compliance paperwork.

Proper operation and maintenance of a system includes a qualified person to operate the system, use of the correct treatment chemicals in appropriate quantities, and operation of the system within the stated design parameters (e.g., temperature and pressure). For example, if the facility is operating a

On-site
Paperwork

Table 7-6
Operation and Maintenance Records

Emulsion Breaking

- Temperature and pH of the emulsion breaking step
- Duration of the emulsion breaking step
- Physical characteristics of the wastewater before and after emulsion breaking

Hydrolysis Treatment

- Temperature and pH of the hydrolysis step
- Duration of the hydrolysis step
- Physical characteristics of the wastewater before and after hydrolysis

Activated Carbon Treatment

- Dates and volumes of carbon changeouts
- Amount of carbon used in the system
- Flow rate through the carbon system and /or volume of wastewater treated since the last carbon changeout

treatment system that consists of emulsion breaking, hydrolysis, and activated carbon, as described in Figure 7-2, the types of operation and maintenance records detailed in Table 7-6 should be kept on site. The method for determining whether the system is well operated can be as simple as keeping the types of records shown in Table 7-6, or as complex as monitoring the treated effluent for specific parameters (such as pesticide active ingredients, priority pollutants, or other local parameters of concern).

The decision to use one method over another is connected to the consistency of the facility's wastewater. If the facility formulates, packages, or repackages the same or similar products for long periods of time, it is reasonable to expect

that a treatment system designed for the wastewater generated during those production operations will be effective if operated and maintained as designed. In these cases, the facility may monitor the effluent from the treatment system for an initial period of time (typically set by the permitting agency or control authority) to establish the typical effluent concentration or load for the pollutants of concern. During the monitoring period, the facility may also document the information detailed in Table 7-6 to establish the normal operating procedures. Following the monitoring period, the facility would only be required to document the operating and maintenance information and may periodically monitor the effluent for the pollutants of concern.

If a facility begins producing new products containing one or more pollutants of concern, the typical concentration or load for those pollutants may need to be revised through another monitoring period, as determined by the permit writer or control authority.

Additional Considerations for Permit Writers and Control Authorities/POTWs¹

Permit writers and control authorities must use best professional judgement when evaluating certification statements and reviewing on-site compliance paperwork from PFPR facilities. Factors that may influence their decisions include previous experience with the facility, the facility management's commitment to program implementation, and the thoroughness and accuracy of the supporting documentation.

One area subject to interpretation is the determination of treatment system equivalency. When reviewing treatment system performance data, the permit writer or control authority should review the source of the data, the time period during which it was collected, and the type of data collected. The level of performance should also be evaluated through one or more of the following methods.

→ Calculate percent removals

The percent removal, as discussed in Chapter 6, is equal to the difference between the influent and effluent values. The percent removal can be calculated on concentrations or on mass loadings. It is important to note that the percent removal is highly dependent on the quantity of pollutant in the influent. For example, an activated carbon system removes bromacil to its target effluent concentration of 0.431 mg/L. If the influent concentration was 100 mg/L, the percent removal is 99.6%, whereas if the influent concentration was 5 mg/L, the percent removal is 91.4 percent.

→ Evaluate the final effluent concentrations

During development of the PFPR rule, EPA identified target effluent concentrations for pesticide active ingredients treated in systems using appropriate treatment technologies, as specified in Table 10 of the final rule. These concentrations are not effluent limitations and do not account for the variability that may occur in PFPR wastewaters and in treatment systems. Permit writ-



¹ The term control authority refers to a POTW when the POTW has an approved pretreatment program. Otherwise, the control authority is the State or EPA Region.

ers and control authorities have the authority to request additional treatability test results or monitoring to better evaluate the variability of the treatment system effluent.

➔ **Review the minimum detection limit**

It is important to note the minimum detection limit achieved by the analytical laboratory that completed the analyses. If the laboratory neglects to perform an appropriate number of dilutions, the results may be inconclusive. For example, if the influent concentration of a pollutant is 100 mg/L and the effluent concentration is reported as <100 mg/L, it is impossible to conclude what level of pollutant removal has been achieved by the treatment system.